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of the

Hawaiian Botanical Society

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MARIE CATHERINE NEAL, 1889-1965

by Edwin H. Bryan, Jr.

At their meeting, June 7, 1965, members of the Hawaiian Botanical Society paid tribute to the memory of their fellow member, Marie C. Neal. Our Vice-President, who presided, asked me to put into words our appreciation of her many contributions and helpfulness to others. This I am glad to do, for I have worked closely with Miss Neal at Bishop Museum over a period of 44 years and have had ample opportunity to observe her many talents and the extent of her service to others. The young student with a flower, the tourist wishing to identify the seeds in a lei, the plant inspector with an intercepted immigrant, the agriculturist with a strange weed, the ethnologist either preparing for a field trip or trying to identify what he had observed on some South Pacific island, and the distinguished botanist working on a difficult group have all received the same cordial welcome and given the same patient and skillful assistance. Miss Neal's many and excellent publications also have been of inestimable help to a much larger group.

Marie Neal was born in Southington, Connecticut, December 7, 1889. She was graduated from Smith College in 1912. Her favorite subject was botany, but after receiving a B.A. degree she had been persuaded to take a secretarial course, and did so at Hartford. In time she found a position as Secretary of the Geology Department of Yale University and, on the side, had charge of the office and editorial work of the Connecticut Geological and Natural History Survey. Here she worked closely with Dr. Herbert E. Gregory, Professor of Geology. Shortly after Professor Gregory's appointment as Director of Bernice P. Bishop Museum, about 1919, he said in effect, "Marie, how would you like to go out to Honolulu and work for Bishop Museum? They could use a hard working girl like you." "That would be grand," was the reply. "Is there any position open in Botany?" "Not at the moment," said the persuasive and dynamic new Director, "but Dr. Cooke needs an assistant in his land shell department; and when the herbarium grows maybe we can transfer you." Dr. Forest B. H. Brown had just been appointed botanist to work with Charles N. Forbes, who during the previous decade had collected numerous Hawaiian plants and was beginning to publish descriptions of new species and obser-

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vations on such subjects as the rate of revegetations on Hawaiian lava flows. Unfortunately Mr. Forbes died in August, 1920.

And so it happened that Miss Neal became Assistant Malacologist of Bishop Museum on January 1, 1920. She did an excellent job sorting, identifying, and cataloging land shells. She collected them in the mountains and even undertook the critical study of certain Hawaiian genera, a paper on the Helicinidae being published in 1934. But plants remained her main love. On the side and after hours she observed, collected, and studied Hawaiian plants, at this period particularly sea weeds. At the suggestion of Dr. Harold L. Lyon, and under the initial direction of Dr. J. B. Pollock, exchange professor from the University of Michigan, 1922-1923, she made an intensive study of the marine algae on a reef slightly west of the site at the time of the Waikiki Aquarium. This was so well done that it earned for her a degree of master of science from Yale University in 1925 and later was published by Bishop Museum as Bulletin 67.

She also made notes regarding ornamental plants and even weeds, especially in gardens throughout Honolulu. Much research was being done on native plants of the Hawaiian mountain forests, but the cultivated and immigrant plants were in need of a champion. This resulted in the publication in 1928 of a popular floral guide entitled "In Honolulu Gardens." In addition to Miss Neal's careful descriptions and notes, including where examples of the plants could be found growing, the book contained Hawaiian and other legends about the plants, assembled by Berta Metzger. It was an instant success, quickly ran out of print, and a revised edition had to be printed in 1929. During this period, Miss Neal also helped to edit many Bishop Museum publications.

In 1925 Miss Neal made a trip to New Zealand, returning in January 1926 with an excellent series of plants which she had collected. During the years which followed, she visited many parts of the Hawaiian Islands, mainly collecting and observing plants. She was interested particularly in the floras of the offshore islets around Oahu. In October, 1935, she made a trip around the world mainly for the purpose of visiting herbaria and botanic gardens.

Outstanding among her field trips was the part she and Dr. Constance Hartt played in the Hawaiian Academy of Science's Mauna Kea Expedition. A camp on the shore of Lake Waiau, elevation 13,000 feet, was occupied from August 6-20, 1935. Dr. Hartt and Miss Neal, the only women in the party, scoured the summit area and upper slopes for plants. Their joint paper, "The Plant Ecology of Mauna Kea, Hawaii," (Ecology 21 (2), April 1940) is an important contribution to the subject.

These two close friends made many trips together, not only throughout the Hawaiian Islands, but also in 1953 to the western part of the United States, visiting national parks, botanic gardens and herbaria. They began sharing adjoining apartments in 1933, and in 1938 built their own home in Nuuanu Valley, surrounded by delightful flower gardens.

The Bishop Museum herbarium grew and required more care than could be given by the succession of botanists, most of them Fellows who went into the field. Miss Neal's appointment as Botanist-in-Charge dates from January 1, 1930, but she actually assumed charge during the last half of 1929. The magnificent job she has done in preparing, arranging, cataloging, studying, and facilitating the use of this extensive

plant collection is well known to everyone who has made use of it or has sought information concerning plants of the tropical Pacific region.

But even better known are Miss Neal's books and numerous articles in journals. Besides those mentioned here, there have been four articles in the Garden Journal, one in the Elepaio, one in Lurefax, thirteen in the Paradise of the Pacific, and two in Pacific Science, for which she served as a member of the Board of Editors, 1950-1953. She provided a section on medicinal plants in "Outline of Hawaiian Physical Therapeutics," by Handy, Pukui, and Livermore, and extensive information on Hawaiian plants for the Hawaiian-English dictionary by Pukui and Elbert.

Her most important contributions to Hawaiian botany have been "In Gardens of Hawaii," 805 pages, 312 figures, 1948, and its complete revision, just published, an advanced copy of which reached the author just before her death, which occured on June 6, 1965.

So highly was Miss Neal regarded by her botanical colleagues that she had been made a life member of the Hawaiian Botanical Society, the Friends of Foster Gardens, and the Hawaii Weed Conference.

Ed.: The Society was very pleased to hear that Miss Neal bequeathed $500 to the Society in her will.

RECOLLECTIONS OF AN HAWAIIAN BOTANIST

by L. W. Bryan, Kailua-Kona, Hawaii[1]

With a few exceptions I shall try to confine myself to my life here in Hawaii where I have made my home now for over 44 years. I do not claim to be a botanist as most of my life has been devoted to forestry. However, these two sciences do go hand in hand particularly here in Hawaii where foresters have used so many different species of plants in their reforestration programs. Then, there has been a pressing need, felt at least by some of our foresters, to preserve and attempt to prevent the complete extinction of some of the native species of plants. In this they have met with some degree of success. Examples being: the Haukuahiwi (Hibiscadelphus giffardianus, Rock), and Nau (Gardenia brighami, Mann). If it were not for the positive action taken by foresters the Haukuahiwi would have completely disappeared years ago and the Nau would no longer be found on the Islands of Hawaii.

But to go back to 1921. Bryan arrived in Honolulu on May 1st of that year. His home was in the east, but after spending over a year in Europe during WW I and having seen parts of that continent he found that he could not settle down so he followed the old advice of Horace Greely and went west. Over a year was spent in California earning a living in several different ways, but mostly, and perhaps strangely, in the engineering profession. However, his feet were still itchy so he continued west and reached Hawaii on the old S. S. Lurline after a 7 days' voyage with a deck load of cattle. His notes at that time showed that he landed with exactly $90.00 in his pocket and all that he owned including his bed roll

[1]Written at the request of the editor in the interest of providing an accurate account of botanists and botany in the Hawaiian Islands. -Ed.

he carried in two hands.

In order to eat, work at that time was necessary. He had no friends in Hawaii so took the first job offered which was as a carpenter erecting pre-fabricated houses at Waikiki. This lasted for about one month. Bryan then visited the University of Hawaii and made himself known to the Business Manager. He was informed of an opening for a forester at the H. S. P. A. Experiment Station and was told to see Dr. H.L. Lyon. This he did. Dr. Lyon decided to give him a trial. So on June 16, 1921 Bryan began work for the H. S. P. A. Department of Forestry at the old Vineyard Street nursery which is now a part of the Foster Garden. Here he spent three weeks learning the names of the various plants being propagated and assisting with the routine work of mixing soil, sowing seed, potting, etc. All the plants were new to him. In fact, as he looks back he recalls only one plant that he recognized. This was the native Neneleau (Rhus semialata) which closely resembles the eastern Sumach. Bryan is and always has been a hiker. During his short stay on Oahu he spent his spare time exploring the mountains. On May 30, 1921 he hiked up the Woodlawn Trail to the ridge trail and then along the ridge to Mount Olympus. From here he climbed (slid) down the windward side, finally coming out on the main road (Pali Highway) and then walking up the Pali and on to the Nuuanu Street Car Line and so back to town. A reckless venture not recommended for a holiday outing.

Early in July Dr. Lyon, having decided that the trial period had proven successful, sent him to Hilo to take charge of the Hilo Forest Reserve which was known as H. S, P. A. Forest Unit #3. This reserve was mostly on paper as the boundary lines had never been marked out on the ground. Survey work took most of his time during the first year. After the boundaries had been located and maps prepared came the job of fencing and then the reforestration program began. His work as H. S. P. A. Forest Supervisor was soon expanded to cover the entire island of Hawaii with some work being done on the islands of Maui and Kahoolawe. His work with the sugar people continued until the H. S. P. A. closed their forestry program in 1949.

On November 1, 1922 Bryan was, in addition to his H. S. P. A. duties, employed as a Forestry Officer for the Territory of Hawaii and he continued in this dual capacity as long as the H. S. P. A. program lasted. This arrangement worked out to the satisfaction of all concerned. Bryan continued as a Territorial and State forester until his retirement in 1961.

During the 40 year period, 1921-1961, much took place on Hawaii. Over 10 million trees were planted; several nurseries were built; arboreta were established in which over 1,000 different species of plants were given trial; fruit orchards were planted in various areas and over 500 different varieties of fruit trees were tested; weather stations were installed; parks were established, Akaka Falls being the first in 1923; the CCC Program as well as other unemployment relief work was carried on; fences, roads, trails, telephone lines, etc. were built; wild animals, principally goats, were eradicated (during the first twenty-five years a total of 134,551 of these animals were destroyed). Trees planted during the early years are now being harvested and manufactured into useful products.

In 1930 Bryan was sent by the H. S. P. A. to the Far East. His primary mission was to bring back the wasp necessary for Ficus retusa to produce fertile seed. This mission was not successful. His secondary mission was to observe forests, forestry

practices and to collect seeds of plants which might prove of value in Hawaii. During this five month trip he visited Japan, China, Formosa, Philippine Islands, Malaya Peninsula and Siam. Over 400 lots of seed were secured, many of which have done well in Hawaii. During this same trip new species of orchids were introduced to the island of Hawaii, one of which has become of considerable importance. Orchids became a hobby for the next 30 years. Numerous hybrids were made and registered, one of which was a new genus which Bryan called Sarcothera. This was the first time that this bi-generic cross had been registered. One parent Sarcochilus pallidus he had collected in Siam.

On this 1930 trip Bryan remembers one night at the Raffles Hotel in Singapore. Sitting by himself at the dining room table he suddenly caught a slight movement behind him out of the corner of his eye. Was it a tiger? - a snake? No, it was only Cyril Pemberton sneaking up on all fours seeking to surprise him. Needless to say, a pleasant evening ensued. Bryan left there shortly after for a 72 hour train ride to Bangkok with several stopovers en route and Pemberton remained behind to collect bugs.

Bryan was Acting Territorial Forester in 1937-38. In 1938 the Territory sent him to the mainland to study CCC activities paying particular attention to Parks and Recreation. He was also directed to attempt to secure seeds and plants suitable for Hawaii. Edible dates was one item on his agenda and as a result 5 named varieties of Phoenix dactylifera were brought in and planted. One orchard still survives at Kawaihae, Hawaii where these trees have produced edible dates for many years. Many new varieties of Citrus and other fruit trees were introduced at this same time together with the Giant Redwood (Sequoia gigantea) which is growing well at 5,000 ft. on the slopes of Mauna Kea.

In 1940 he was ordered to active duty in the Army of the U. S. and continued to serve until after the close of WW II when he was separated and returned to duty as a forester. During the war he served in various assignments in the Pacific, his last being Commanding Officer of Christmas Island. While there his duties made it possible for him to visit many of the adjacent islands including Fanning, Palmyra, Canton, Fiji, Tonga Group, Cook Group, Society Group, etc. While visiting some of these islands he was able to observe forest conditions and collect seed in a limited way. After WW II he helped to reorganize the Hawaii National Guard. For 3 years he served as C. O. 299th RCT. Later he became Chief of Staff, HANG serving in that capacity until 1953. He was retired for age as a Colonel, Infantry in 1955.

In 1956 Bryan was sent to New Zealand and Australia by the Territory of Hawaii to study the Eucalypts. A final illustrated report of 100 pages covering this trip was published the following year. In addition he has written numerous bulletins, articles for magazines and newspapers: "Twenty-five Years of Forestry Work on the Island of Hawaii," "The Hilo Forest Reserve," etc. He is co-author of the book "Hawaiian Timber" and senior author of "Check List of Common Forest Plants in Hawaii." He contributed papers to both the 5th World Forestry Congress and the 10th Pacific Science Congress. For four years he acted as Chairman of the Standing Committee on Forestry Resources of the Pacific. As a member of this committee he prepared the chapter for Hawaii for the report "Forest Conditions, Objectives and Problems of the Pacific."

In 1958 he prepared the chapter on palms of Hawaii which was published as a special issue of the American Horticultural Magazine, January 1961 under the title "Cultivated Palms."

His principal botanical interest has been the native Hawaiian flora. In 1921 Dr. J. F. Rock (his good friend "Pohaku") who had studied and written so well about Hawaiian plants was no longer in Hawaii. At that time no one else seemed to be greatly interested in native flora. Fortunately there were a few old Hawaiians still alive who knew their plants and who assisted Bryan. He is particularly in debt to the Robert Hind family, formerly of Puuwaawaa, for their gracious hospitality and loan of their knowledgeable cowboys and the animals on which he rode. Many botanical trips were made to this and to other areas where quantities of seed were collected from which plants were raised. As a result several arboreta containing only native plants were established. Today in the Manuka State Park over 40 different species of native plants are growing. Visiting botanists, who formerly were obliged to spend days searching for some species, may now study them in this park area.

He was also fortunate in being able to collect native plants with some of the botanists who visited Hawaii during his early years. Skottsberg came first and Bryan was assigned to act as his guide on both Maui and Hawaii. McDaniels came in 1926. Others followed and from these associations his knowledge of native plants was greatly increased.

Bryan retired from active duty with the State Division of Forestry as Deputy State Forester on January 31, 1961. Since that time he has acted as a consultant with headquarters in Kailua-Kona, Hawaii. His work has been varied and interesting including forestry, land management, landscape work, etc. In 1963 he spent two months in Mexico with the primary mission of studying Mexican Pines. Mexico has a greater number of pine species than any other similar area. Many should do well in Hawaii. Seeds of those showing promise were secured, brought to Hawaii and planted. Trees produced as a result of this seed have already been planted out in several different trial areas. His secondary mission was to observe the Mexican Ash, (Fraxinus uhdei) and other tropical hardwoods. This trip was sponsored jointly by the B. P. Bishop Estate and the U. S. Forest Service. A complete illustrated report was prepared covering this trip.

And so ends the first seventy years. It should be easier from here on as it will be all coasting.

REVIEW OF ANCIENT PACIFIC FLORAS--THE POLLEN STORY*

Cranwell, Lucy M., ed. 1964. Ancient Pacific Floras--The Pollen Story. (A symposium from the Tenth Pacific Science Congress). University of Hawaii Press, Honolulu. ix + 115 pp. $3.50

One must not make the mistake of regarding papers contributed to a symposium as complementary, forming a unified picture of a particular field: they never do.

* Prepared at the request of the Editor.

The fact that the contributions in "Ancient Pacific Floras--The Pollen Story" are not additive does not lessen the value of having assorted papers on pollen floras in the Pacific Basin conveniently available in one place. These papers vary widely in topic, scope, and content; although some appear hastily readied for presentation at the 10th Pacific Science Congress, most represent good information, often excellently illustrated. The contributions serve to emphasize the value of palynology and the great need for such studies in the Pacific Basin. The better papers in this volume make it worthy of purchase by those interested in biogeography, for pollen floras can be useful in negating or confirming hypotheses of origin and migration. Students of pollen, if they have not already discovered this volume, will certainly want to acquire it.

---Sherwin Carlquist

11th PACIFIC SCIENCE CONGRESS, TOKYO, JAPAN, 1966

The President of the Science Council of Japan in his role as Chairman of the Organizing Committee of the Eleventh Pacific Science Congress has, on behalf of the Council and the Government of Japan, extended an invitation to the representative scientific institutions of the Pacific Science Association to participate in the Congress which will be held in Tokyo, August 22 - September 10, 1966. Bishop Museum, as the representative institution in Hawaii, is pleased to assist the Organizing Committee in further extending its invitation to participate to all interested institutions, organizations, and individuals in Hawaii. The invitations is here being brought to the attention of the members of the Hawaiian Botanical Society.

Two of the twelve sections, into which the activities of the Congress will be divided, could be of interest to botanists. These are, with their Chairman and Secretary:

V. BIOLOGY, Chairman, Hiroshi Hara, Professor, Faculty of Science, University of Tokyo, Bunkyo-ku; Secretary, Tadashige Habe, Curator, Zoology Department, National Science Museum, Ueno Park, Taito-ku, Tokyo.

VI. AGRICULTURE, FORESTRY, ANIMAL SCIENCE and CONSERVATION, Chairman, Yuichi Ochi, President Azabu Veterinary College, Fucinobe, Sagamihara-shi, kanagawa-ken; Secretary, Shin Okoshi, Professor, Faculty of Agriculture, University of Tokyo, Bunkyo-ku, Tokyo.

The Congress will cover a period of three weeks, August 22 to September 10, 1966. The first week will be devoted to symposia. Their participants will be nominated by the convener of each.

The second week will be occupied by divisional meetings. The Organizing Committee welcomes contributions from any scientist who will be in Tokyo at the time of the Congress. Those wishing to contribute must inform the Chairman of the responsible Section of the Organizing Committee (two of whom are listed above) of their title and brief contents of their paper as early as possible. The Committee has expressed

its wish that application to present a paper be authorized by the representative institution concerned. Bishop Museum will be pleased to assist. The following sections will be included:

V. Botany
Plant and animal ecology

VI. Crop and horticultural sciences
Nature conservation
Plant protection
Soil science and plant nutrition

Please notify the Director, Bishop Museum, of your intention to attend the Congress so that he may inform the Organization Committee, and concerning any paper you desire to present. The Museum will be glad to furnish additional information, if desired.

The third week of the Congress will consist of tours.

---E. H. Bryan, Bishop Museum

NOTES AND NEWS

Returning to the Horticulture Department this summer were Dr. Harry Kamemoto after three years at Kasetsart University and Dr. Richard Hamilton after one year at Turrialba, Costa Rica. Dr. Yrjo Makinen arrived as a Postdoctoral Fellow with Dr. Brewbaker.

Recent visitors to the Horticulture Department include: Dr. Robert Chandler, Director, International Rice Research Institute, Los Banos, Philippines; Dr. Marcus M. Rhodes, Head, Department of Botany, Indiana University; Dr. H. B. Cole, Thomas Young Orchids, Middlesex, New Jersey; Mr. Peter Revter, a commercial orchidist from Germany; Colonel Wells W. Miller, President, California Macadamia Society; Dr. Weiser, a physiologist from the Horticulture Department at the University of Minnesota; Dr. Victor R. Gardner, former Head, Department of Horticulture, Michigan State University; Dr. Robert Ealey, Head, Department of Horticulture, Kansas State University; S. K. Bhatia, Potato Research Institute, Simla, Punjab, India; Dr. J. Snishiyama of the University of Kyoto and Washington State University; Dr. H. Hasegawa of Kyoto University; Mr. John F. Adams, Production Manager of Asgrow Seed Company, New Haven, Connecticut; Dr. S. Ito, Director of Takii and Co., Ltd's Nagaoka Plant Breeding and Experiment Station; Rev. William F. Masterson, S.J., Director, College of Agriculture, Xavier University, Cagayan de Oro City, Philippines.

1965 Summer Foray. The 1965 Hawaiian Botanical Society Summer Foray was held Monday, July 5th on the Kawaiiki Ditch Trail rather than on Wilivilinui Ridge. Over one hundred persons, including about fifty Hawaii Junior Science Apprentices and many out-of-state visitors, participating in the hike, which was led by Dr. George Gillett.

Department of Botany. Dr. Gladys Baker and visiting research mycologist, Dr. Louise Potter visited Tahiti in August, obtaining several collections of fungi for their current research. Dr. Dieter Mueller-Dombois carried out ecological research on the island of Hawaii during the summer months. Dr. Mueller-Dombois is making a vegetation survey of Hawaii National Park. Dr. Charles Lamoureux is now on sabbatical and is currently working in the laboratory of Professor W. R. Philipson at the University of Canterbury, Christchurch, New Zealand.

Visitors. Dr. W. H. Wagner and Mr. M. L. Tessene of the University of Michigan pursued research projects in Hawaii during this past summer. Dr. Wagner continued his extensive study on the cytotaxonomy of the ferns, and Mr. Tessene studied populations of Plantago in conjunction with his biosystematic studies of the genus. Dr. Sherwin Carlquist continued his studies of the Hawaiian flora during the summer and completed field work for papers on dispersal and breeding systems. The Rev. Mr. Norman Cruttwell, Anglican missionary from Eastern Papua, New Guinea visited briefly en route to continue his 19 years of work with the Papuans. Mr. Cruttwell is an active collector, having been trained in his youth by Sir E. J. Salisbury, former director at Kew.

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THE HAWAIIAN BOTANICAL SOCIETY was founded in 1924 to "advance the science of Botany in all its applications, encourage research in Botany in all its phases," and "promote the welfare of its members and to develop the spirit of good fellowship and cooperation among them." Any person interested in the plant life of the Hawaiian Islands is eligible for membership in this Society.

The Hawaiian Botanical Society Newsletter is published in February, April, June, October, and December. It is distributed to all Society Members and other interested institutions and individuals with the purpose of informing them about botanical news and progress in Hawaii and the Pacific. News contributions and articles are welcomed. The deadline submission of news items is the 20th of each month prior to publication. Produced at the University of Hawaii and at the Experiment Station, HSPA. Membership dues are $3.00 per calendar year and in include receipt of the Newsletter.

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c/o Department of Horticulture
1825 Edmondson Road - Henke Hall
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